

CURRICULUM VITAE

Chad Livingston Leverette

Education

<u>College/University</u>	<u>Major</u>	<u>Dates</u>	<u>Degree</u>
University of Georgia	Analytical Chemistry	8/96-12/00	Ph.D.
Erskine College	Chemistry	8/92-5/96	B.S.

Professional Experience

<u>Institution/Employer</u>	<u>Dates</u>	<u>Position Title</u>	<u>Nature of Work</u>
USC Aiken	8/09-pres.	Associate Professor	Teaching/Scholarship/Service
USC Aiken	8/04-8/09	Assistant Professor	Teaching/Scholarship/Service
Cargill, Inc.	12/03-8/04	Sr. Research Scientist II	Project Management/Global R&D
Cargill, Inc.	1/01-12/03	Sr. Research Scientist I	Global Research & Development
Univ. of Georgia	6/97-12/00	Research Assistant	Research
Univ. of Georgia	8/96-6/97	Teaching Assistant	Teaching: General Chemistry
Clemson Univ.	5/95-8/95	Lab Technician	Environmental Toxicology

Honors and Awards

Recipient of the USC Aiken Scholarly Activity Award	2010
Finalist for the SC Governor's Professor of the Year Award ¹	2009
Recipient of the USC Aiken Excellence in Teaching Award	2009
Nominee for Governor's Young Researcher Award for Excellence in Scientific Research	2009
Nominated for USC Russell Research Award	2009
Nominated for USCA Scholarly Activity Award	2009

Selected as a "Prominent Young Spectroscopist" by the International Journal <i>Vibrational Spectroscopy</i> . ²	2008
Selected by the <i>Aiken Standard</i> as one of the "Top 25 people to watch in 2009" ³	2008
Special Feature in <i>Aiken Standard</i> ⁴	2008
Special Feature in "Welcome Aiken" Publication ⁵	2008
Special Feature in USCA Magazine	2007
Accepted as a Member of the USC NanoCenter	2006
Nominated for USCA Excellence in Teaching Award	2006, 2010
Nominee for the "Achiever's Circle" research award at Cargill, Inc.	2003
Nominee for the "Chairman's Innovation Award" at Cargill, Inc.	2001
Outstanding Chemistry Graduate Student Assistantship Award	2000
Kenneth W. Whitten Outstanding Teaching Assistant Award	1997
E. L. Reid Undergraduate Excellence in Chemistry Award	1993,1995,1996

¹Selected by the Commission on Higher Education as a 2009 South Carolina Governor's Distinguished Professor for excellence in teaching and was chosen as a finalist for the SC Governor's Professor of the Year Award.

²A special issue (May 2009) by the journal featured the research of the recipients of this award. **Only 21 prominent young vibrational spectroscopists from around the world** (under the age of 38) were chosen for this award by the editorial board of this international journal. The board selects recipients of this special honor every 4 years. Recipients are to conduct an original research project and submit a manuscript describing this research to the journal. After the manuscript is accepted from a peer-review process, the manuscripts are published in a special issue of the journal dedicated to these promising and prominent scientists. Typically, this award is given to researchers at research universities, industry, or national laboratories.

³The Saturday, December 27, 2008 issue of the *Aiken Standard* selected "The Top 25 People to Watch in 2009". This list included a S.C. State Legislator, Mr. Tom Young, Jr., a S.C. State Senator, Mr. Shane Massey, and the Director of the Savannah River National Laboratory, Dr. Sam Bhattachayya.

⁴The Tuesday, November 11, 2008 issue of the *Aiken Standard* published an article recognizing the recent award I received and my scholarship accomplishments.

⁵The 2008 "Welcome Aiken" Publication is published yearly by the Greater Aiken Chamber of Commerce. Dr. Leverette was chosen as one of three individuals to be highlighted in a special article that focused on Aiken's ability to attract "some of the world's most accomplished individuals and influential companies". (p.14, Welcome Aiken, 2008) In this article, Dr. Leverette's research was highlighted.

Honors through Research Advisees

Undergraduate research advisee, Ms. Michelle Killian, was selected as a Magellan Scholar for **Spring 2010**. The Magellan Scholar program is the premier undergraduate research award for the University of South Carolina System. The award enables the student and the faculty mentor to work on an independent research project together. Mickie's project title is "Optimized SEIRA Substrate Fabrication by Physical Vapor Deposition: Influence of the Choice of Underlying Substrate, Film Thickness, Angle of Deposition, and Substrate Rotation on the Observed SEIRA Response". The project was funded in the amount of \$2,965. Ms. Killian was also selected as the recipient of the "Undergraduate Research Award" for her research presentation "Optimized SEIRA Substrate Fabrication by Physical Vapor Deposition" at the 2010 South Carolina Academy of Science Annual Meeting.

Undergraduate research advisee, Ms. Melissa Warren, was awarded the "Undergraduate Research Award" for her research presentation "Chemical Characterization of Pigmented Sclerites from Diseased Coral Sea Fans". Ms. Warren was also selected as the recipient of the "Best Undergraduate Female Scientist" award by the American Association for the Advancement of Science, South Carolina Academy of Science Annual Meeting, 2006.

Scholarship

Peer-Reviewed Articles

*represents corresponding author

underlined indicates undergraduate research advisee co-authors

10. **C. L. Leverette***, E. Villa-Aleman, S. Jokela, Z. Zhang, Y. Liu, Y. Zhao, S. Smith, "Trace Detection and Differentiation of Uranyl(VI) Ion Cast Films Utilizing Aligned Ag Nanorod SERS Substrates", *Vibrational Spectroscopy* **2009**, 50, 143-151. (Award: Special Issue dedicated to Prominent Young Spectroscopists)
9. **C. L. Leverette***, C. Wills, S. A. Jacobs, and A. Perkins, "Structural Analysis of Nanofilms Using Fourier Transform Infrared Spectroscopy: An Introduction into the Spectroscopic Analysis of Nanotechnology Systems for the Undergraduate Instrumental Analysis Laboratory", *Journal of Chemical Education* **2009**, 86, 719-722.
8. C. E. Turick*, A. S. Knox, **C. L. Leverette**, Y. Kritzas, "In-situ Uranium Stabilization by Microbial Metabolites", *J. Env. Radioact.* **2008**, 99, 890-899.
7. **C. L. Leverette**, M. J. Warren, M.-A. Smith, G. Smith*, "Carotenoid is the Purple Pigment in *Gorgonia Ventalina* Sclerites", *Spectrochimica Acta* **2008**, 69, 1058-1061.
6. **C. L. Leverette***, S. A. Jacobs, S. Shanmukh, S. B. Chaney, R. A. Dluhy, and Y.-P. Zhao, "Aligned Silver Nanorod Arrays as Substrates for Surface-Enhanced Infrared Absorption Spectroscopy (SEIRA)", *Applied Spectroscopy* **2006**, 60, 906-913.
5. **C. L. Leverette*** and R. A. Dluhy, "Vibrational Spectroscopic Characterization of Model Bilayer Systems Using Surface-Enhanced Raman Scattering (SERS) and Infrared Reflection-Absorption Spectroscopy (IRRAS)", *Colloids and Surfaces A* **2004**, 243, 157-167.

4. D. L. Elmore*, **C. L. Leverette**, D. B. Chase, A. T. Kalambur, Y. Liu, and J. F. Rabolt, "Planar Array Infrared Imaging of Monolayer Films", *Langmuir* **2003**, 19 , 3519-3524.
3. **C. L. Leverette**, V. Shubert, T. Wade, K. Varazo, and R. A. Dluhy*, "Development of a Novel Dual Layer Thick Ag Substrate for Surface-Enhanced Raman Scattering (SERS) of Self-Assembled Monolayers.", *Journal of Physical Chemistry B* **2002**, 106, 8747-8755.
2. **C. L. Leverette**, "Development of Unenhanced External Reflection Raman Spectroscopy and Surface-Enhanced Raman Scattering (SERS) Methods for Routine Structural Characterization of Biophysical Molecular Monolayers", Ph.D. thesis; University of Georgia, **2000**.
1. **C. L. Leverette** and R. A. Dluhy*, "A Novel Fiber Optic-Interface for Unenhanced External Reflection Raman Spectroscopy of Supported Monolayers", *Langmuir* **2000**, 16, 3977-3983.

Refereed Book Chapters

1. D. L. Elmore, S. Smith, C. Lendon, and **C. L. Leverette**. "Mid-infrared Imaging Applications in the Agricultural and Food Sciences". in *Spectrochemical Analysis Using Infrared Multichannel Detectors*, R. Bhargava and I. Levin, eds., Blackwell Publishing, **2005**.

Non-Refereed Articles (Patents/Provisional Patents)

2. **C. L. Leverette**, "Novel Use of Nanorods as Substrate for Surface-Enhanced Infrared Absorption (SEIRA) Spectroscopy", Provisional Patent Filed, **2005**
1. **C. L. Leverette** and S. Smith, "A Combined Polarized Light Microscopy and Spectroscopy/Hyperspectral Imaging Apparatus", PCT/WO 2004/095113A2, **2004**

Funded Grant Proposals

9. Title: Optimized SEIRA Substrate Fabrication by Physical Vapor Deposition
 Source: University of South Carolina Research Foundation-Magellan Scholars Program
 Role: PI
 Period: 1/10-5/10
 Funding: \$2,965
 Status: granted
8. Title: Development of Metallic and Dielectric-Based SEIRA Substrates by Electroless Deposition and Glancing Angle Vapor Deposition (GLAD)
 Source: U. S. Department of Energy
 Role: PI
 Period: 5/09-3/10

- Funding: \$77,589
Status: granted
7. Title: Development of SEIRA Substrates Fabricated by Glancing Angle Vapor Deposition (GLAD) for Uranyl Ion Detection and Differentiation
Source: U. S. Department of Energy
Role: PI
Period: 5/08-2/09
Funding: \$42,901
Status: granted
6. Title: Differentiation of Uranyl Ion Complexes Utilizing Surface-Enhanced Vibrational Spectroscopy
Source: U. S. Department of Energy
Role: PI
Period: 5/07-12/07
Funding: \$27,191
Status: granted
5. Title: Acquisition of a Glancing Angle Vapor Deposition (GLAD) System
Source: University of South Carolina Research Foundation-Research Equipment Programs
Role: PI
Period: 02/07-01/09
Funding: \$62,810
Status: granted
4. Title: ACS PRF Type G: Influence of Nanostructure Design on the Structure and Spectroscopic Characterization of Self-Assembled Organic Films Deposited onto Novel Metallic Surfaces
Source: American Chemical Society Petroleum Research Fund
Role: PI
Period: 01/07-01/09
Funding: \$40,000
Status: granted

The American Chemical Society (ACS) is the premier national society for chemists and chemical engineers. *This grant has a typical funding rate of less than 30% for those that apply.* In 2006, 505 applications were submitted and only 140 were awarded.

3. Title: Trace Detection of Uranyl Compounds Utilizing Aligned Nanorod SERS Substrates
Source: U. S. Department of Energy
Role: PI
Period: 3/06-8/06
Funding: \$15,340
Status: granted
2. Title: Investigation into the use of GLAD substrates for Surface Enhanced

Source: Infrared Reflection Absorption (SEIRA) Spectroscopy
University of South Carolina Research Foundation
(Research and Productive Scholarship Grant-Category II)
Role: Principal Investigator
Period: 5/05-5/06
Funding: \$6000
Status: granted

1. Title: Reconditioning of a Research Grade Raman Spectroscopy System
Source: University of South Carolina Research Foundation and University
of South Carolina Aiken-Office of Academic Affairs
Role: Principal Investigator
Period: N/A
Funding: \$22,000
Status: granted

Total Funds Obtained Since Aug. 2004: \$ 296,796.00

Pending Grant Proposals

1. Title: NSF-MRI: Acquisition of a Dispersive Raman Microscope for
Spectroscopy and Imaging Applications (NSF 10-529)
Source: National Science Foundation
Role: PI
Period: 9/10-8/13
Funding: \$276,936
Status: pending

Declined Grant Proposals

8. Title: NSF-MRI²: Acquisition of a Dispersive Raman Microscope for
Spectroscopy and Imaging Applications (NSF 09-561)
Source: National Science Foundation
Role: PI
Period: 1/10-1/13
Funding: \$296,665
Status: declined
7. Title: ARI-MA: Trace Analysis of Uranyl Compounds Using Enhanced
Vibrational Spectroscopic Methods on Aligned Nanorod Substrates
(NSF 08-534)
Source: Domestic Nuclear Detection Office/National Science Foundation
Academic Research Initiative
Role: Co-PI (collaboration with the University of Georgia)
Period: 10/08-09/12
Funding: \$842,698
Status: declined

6. Title: NSF-ARI: Radiation Sensing using Chemically-Controlled Magnetism Integrated with Giant Magnetoresistance Sensor Architectures
Source: Domestic Nuclear Detection Office/National Science Foundation Academic Research Initiative
Role: Co-PI (collaboration with USC Columbia)
Period: 12/07-12/11
Funding: \$1,475,000
Status: declined
5. Title: Chemical Control of Magnetism in Metallic Nanostructures
Source: Collaborative Research in Chemistry, National Science Foundation
Role: Co-PI (collaboration with USC Columbia)
Period: 7/07-6/11
Funding: \$1,900,000 (\$450,000 to USCA)
Status: declined
4. Title: NIRT: Novel Viral Biosensors Based on Nanostructured SERS Probes
Source: National Science Foundation
Role: Co-PI
Period: 7/05-7/09
Funding: \$1,591,769 (\$110,107 to USCA)
Status: declined
3. Title: Spectroscopic Characterization of Self-Assembled Monolayers on Novel Metallic Nanostructures
Source: Cottrell College Science Award, Research Corporation
Role: PI
Period: 11/06-11/08
Funding: \$54,442 (includes \$10,000 in institutional matching funds)
Status: declined
2. Title: NIRT: Novel Viral Biosensors Based on Nanostructured SERS Probes
Source: National Science Foundation
Role: Co-PI
Period: 7/06-7/10
Funding: \$1,591,769 (\$110,107 to USCA)
Status: declined
1. Title: UMEB: Investigating invasive species biology and disease transmission through Avian Vacuolar Myelinopathy (AVM)
Source: National Science Foundation
Role: Co-PI
Period: 5/06-8/10
Funding: \$538,674
Status: declined

Papers Presented (Last 5 years) – 37 total since 1998

26. Killian, M., Villa-Aleman, E., Murph, S., Crittenden, S., **Leverette, C. L.**, USC Discovery Day, April 23, **2010**: “Optimized SEIRA Substrate Fabrication by Physical Vapor Deposition”.
25. Killian, M., Villa-Aleman, E., Murph, S., Crittenden, S., **Leverette, C. L.**, South Carolina Academy of Science Annual Meeting, April 17, **2010**: “Optimized SEIRA Substrate Fabrication by Physical Vapor Deposition”.
24. Killian, M., Villa-Aleman, E., Murph, S., Crittenden, S., **Leverette, C. L.**, USC Aiken Research Day, April 16, **2010**: “Optimized SEIRA Substrate Fabrication by Physical Vapor Deposition”.
23. Peters, B., Killian, M., Villa-Aleman, E., Murph, S., **Leverette, C. L.**, 60th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Orlando, FL, February 28-March 5, **2010**: “Physical Vapor Deposition vs. Electroless Deposition: A Comparison of Two Popular SEIRA Fabrication Methods”.
22. Killian, M., Peters, B., Villa-Aleman, E., Murph, S., Crittenden, S., **Leverette, C. L.**, 60th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Orlando, FL, February 28-March 5, **2010**: “Optimized SEIRA Substrate Fabrication by Physical Vapor Deposition: Influence of the Choice of Underlying Substrate, Film Thickness, Angle of Deposition, and Substrate Rotation on the Observed SEIRA Response”.
21. Peters, B., **Leverette, C. L.**, South Carolina Academy of Science Annual Meeting, Columbia, SC, March **2009**: “Fabrication and Characterization of SEIRA Substrates Utilizing Electroless Deposition”.
20. Smith, G. W., Smith, M-A., **Leverette, C. L.**, 33rd Annual Eastern Fish Health Workshop, Atlantic Beach, NC, March 31-April 4, **2008**: “Comparative Defense Mechanisms in *Pseudopterogorgia americana* And Other Gorgonians”.
19. **Leverette, C. L.**, Villa-Aleman, E., 59th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA, March 2-7, **2008**: “Differentiation of Uranyl Ion Cast Films Utilizing Surface-Enhanced Vibrational Spectroscopy (SEVS)”.
18. Turick, C. E., Knox, A. S., **Leverette, C. L.**, 59th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, New Orleans, LA, March 2-7, **2008**: “Microbial Metabolite Production for Enhanced Subsurface Redox Activity and Contaminant Immobilization”.
17. Smith, G. W., **Leverette, C. L.**, Warren, M., Smith, M-A., 32nd Annual Eastern Fish Health Workshop, Gettysburg, PA, June 18-21, **2007**: “Defense Mechanisms in Gorgonians Against Infections by *Aspergillus sydowii*”.
16. **Leverette, C. L.**, Perkins, A., Dluhy, R. A., Zhao, Y.-P., Zhang, Z., Liu, L., Villa-Aleman, E., 58th Southeast Regional Meeting of the American Chemical Society, Augusta,

Georgia, November 1-4, **2006**: "Low Level Uranium Detection Using Aligned Silver Nanorod SEVS Substrates". **(Invited)**

15. **Leverette, C. L.**, Dluhy, R. A., Zhao, Y. -P., Villa-Aleman, E., 232nd ACS National Meeting, San Francisco, CA, September 10-14, **2006**: "Trace Analysis of Uranyl Compounds Utilizing Aligned Nanorod SEVS Substrates". **(Invited)**
14. Turick, C. E., Knox, A. S., Maloney, A., **Leverette, C. L.**, Poppy, T., Kritzas, Y. G., 232nd ACS National Meeting, San Francisco, CA, September 10-14, **2006**: "Electrochemically-active metabolite production accelerates metal reduction and immobilization by a variety of bacterial genera".
13. **Leverette, C. L.**, Wills, C., Elmore, D. L., 57th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Orlando, FL, March 12-16, **2006**: "Structural Analysis of Nanofilms Using Fourier Transform Infrared Spectroscopy: An Introduction into the Spectroscopic Analysis of Nanotechnology Systems for the Undergraduate Instrumental Analysis Laboratory".
12. **Leverette, C. L.**, Jacobs, S. A., Shanmukh, S., Chaney, S. B., Dluhy, R. A., Zhao, Y. -P., 57th Pittsburgh Conference on Analytical Chemistry and Applied Spectroscopy, Orlando, FL, March 12-16, **2006**: "Characterization of Silver Nanorod Substrates for Surface-Enhanced Infrared Absorption (SEIRA) Spectroscopy".
11. Jacobs, S. A., **Leverette, C. L.**, Chaney, S. B., Zhao, Y.-P., Shanmukh, S., Dluhy, R. A., South Carolina Academy of Science Annual Meeting, Columbia, SC, March 10, **2006**: "Characterization of Silver Nanorod Substrates for Surface-Enhanced Infrared Absorption (SEIRA) Spectroscopy".
10. Warren, M. J., **Leverette, C. L.**, Smith, G. W., South Carolina Academy of Science Annual Meeting, Columbia, SC, March 10, **2006**: "Chemical Characterization of Pigmented Sclerites from Diseased Coral Sea Fans".
9. Shanmukh, S., **Leverette, C. L.**, Jacobs, S. A., Chaney, S. B., Dluhy, R. A., Zhao, Y. -P., The University of Georgia Biomedical and Health Sciences Institute, 4th Annual Retreat, June **2005**: "Characterization and Application of Silver Nanorod SERS Substrates as Viral Biosensors".
8. St. Jeor, V. L., Elmore, D. L., Lendon, C. A., Smith, S. A., **Leverette, C. L.**, Microscopy and Microanalysis, Honolulu, Hawaii, July 31-August 4, **2005**: "Spectrochemical Micro-Analysis of Biological Tissues Using Raman and FT-IR Microspectroscopy with Metallographic Polishing".
7. Dluhy, R. A., Tripp, R., Shanmukh, S., **Leverette, C. L.**, Chaney, S. B., Zhao, Y. -P., 3rd International Workshop on Vibrational Spectroscopy of Monolayer Films, Quebec City, Canada, July 25-27, **2005**: "Viral Fingerprinting Based on Novel Nanostructured SERS Probes".
6. Lendon, C. A., Smith, S. A., McDonald, J. T., Elmore, D. L., **Leverette, C. L.**, 56th

Pittsburgh Conference, Orlando, Florida, February 27-March 3, **2005**: “Optimization of Experimental Constraints when Coupling Automated Polarized Light Microscopy with Raman Microscopy”.

5. **Leverette, C. L.**, Dluhy, R. A., 56th Southeast Regional Meeting of the American Chemical Society, Research Triangle Park, North Carolina, November 10-13, **2004**: “Vibrational Spectroscopic Characterization of Model Bilayer Systems Using Surface-Enhanced Raman Scattering (SERS) and Infrared Reflection-Absorption Spectroscopy (IRRAS)”.
4. Muroski, A. R., Anderson, B. B., Elmore, D. L., Lendon, C. A., **Leverette, C. L.**, Smith, S. A., Eastern Analytical Symposium, Somerset, New Jersey, November 15-18, **2004**: “Vibrational Imaging of Food and Agricultural Systems”.
3. Elmore, D. L., **Leverette, C. L.**, Smith, S. A., Anderson, B. B., Muroski, A. R., St. Jeor, V. L., 31st Annual Conference of the Federation of Analytical Chemistry and Spectroscopy Societies, Seattle, Washington, October 3-7, **2004**: “A Sampling Methodology to Overcome Optical Anomalies and Thickness Dependence in FT-IR Imaging and Combined Automated Polarized Light/Raman Microscopy”.
2. **Leverette, C. L.**, Smith, S. A., Elmore, D. L., 31st Annual Conference of the Federation of Analytical Chemistry and Spectroscopy Societies, Seattle, Washington, October 3-7, **2004**: “The Combination of Automated Polarized Light Microscopy and Raman Microscopy for the Analysis of Chemical Systems”.
1. St. Jeor, V. L., Elmore, D. L., **Leverette, C. L.**, Smith, S. A., Anderson, B. B., Muroski, A. R., Microscopy and Microanalysis 2004, Savannah, Georgia, August **2004**: “Chemical Micro-Analysis of Biological Tissues Using Raman Microscopy and Metallographic Polishing”.

underlined represents undergraduate research advisee co-authors

***Presentations #23, 22, 19, 18, 13, 12, 7, 6, 3, 2 were made at international conferences

***Presentations #15, 14, 8, 1 were made at national conferences

***Presentations # 25, 21, 20, 17, 16, 11, 10, 5, 4 were made at regional conferences

Manuscripts Reviewed

11. John, J., Mahurin, S. M., Sepaniak, M. J., Dai, S., “A Re-Usable SERS Substrate Prepared by Atomic Layer Deposition of Alumina on a Multi-Layer Gold and Silver Film”, *Applied Spectroscopy*, April **2010**.
10. Du, X., Chu, Hsiaoyun, Huang, Y., Zhao, Y.-P., “Quantitative Determination of Melamine by Surface Enhanced Raman Spectroscopy Using Ag Nanorod Array Substrates”, *Applied Spectroscopy*, January **2010**.
9. Liu, Y. -J., Chu, Hsaioyun, Zhao, Y. -P., “Surface-Enhanced Raman Scattering Characterization of Ag Nanorod Arrays”, *Journal of Physical Chemistry*, January **2010**.

8. Luo, W., van der Veer, W., Chu, P., Mills, D., Penner, R., Hemminger, J., "Polarization-Dependent Surface Enhanced Raman Scattering from Silver 1D Nanoparticle Arrays", *Journal of Physical Chemistry*, April **2008**.
7. Zhang, Z., Zhao, Y.-P., "Optical Properties of Helical and Multi-Ring Ag Nanostructures: the Effect of Pitch Height", *Journal of Applied Physics*, April **2008**.
6. Zhao, Y.-P., "Novel Nanostructures for Surface Enhanced Raman Spectroscopy (SERS) Biosensing", *Materials Today*, February **2008**.
5. Liang, L., "Direct Growth of Al Nanowire Arrays: Thermal Expansion and Field Emission Properties", *Journal of Physical Chemistry*, October **2007**.
4. Zhang, Z., Zhao, Y., "Extinction Spectra and Electrical Field Enhancement of Ag Nanorods with Different Topologic Shapes", *Journal of Applied Physics*, August **2007**.
3. Smith, W., Zhang, Z.-Y., Zhao, Y., "Structural and Optical Characterization of WO₃ Nanorod Films Prepared by Oblique Angle Vapor Deposition", *Journal of Vacuum Science and Technology B*, July **2007**.
2. Zhao, Y., Chaney, S., Zhang, Z., "Absorbance Spectra of Aligned Ag Nanorod Arrays Prepared by Oblique Angle Deposition", *Journal of Applied Physics*, May **2006**.
1. Kudelski, A., "Characterization of Thin Organic Layers by Vibrational Spectroscopy: A Review", *Vibrational Spectroscopy*, March **2005**.

Non-Refereed Reports (to granting agencies)

19. **C. L. Leverette**, American Chemical Society Petroleum Research Fund, Annual research report, PRF#45862-GB5 "Investigation of Nanostructure Design on the Structure and Spectroscopic Characterization of Self-Assembled Organic Films Deposited onto Novel Metallic Surfaces", **October 2009**.
18. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report SC #0242 "Development of Metallic and Dielectric-Based SEIRA Substrates by Electroless Deposition and Glancing Angle Vapor Deposition (GLAD)", **August/September/October 2009**.
17. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report SC #0242 "Development of Metallic and Dielectric-Based SEIRA Substrates by Electroless Deposition and Glancing Angle Vapor Deposition (GLAD)", **June/July 2009**.
16. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Final Project Report, Project SC #0226 "Development of Surface-Enhanced Vibrational Spectroscopy Methodology Utilizing GLAD Vapor Deposition for the Trace Detection and Differentiation of Uranyl Ion Cast Films", **December 2008**.
15. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report, Project SC #0226 "Development of SEIRA Substrates

Fabricated by Glancing Angle Vaport Deposition (GLAD) for Uranyl Ion Detection and Differentiation", **November 2008**.

14. **C. L. Leverette**, American Chemical Society Petroleum Research Fund, Annual research report, PRF#45862-GB5 "Investigation of Nanostructure Design on the Structure and Spectroscopic Characterization of Self-Assembled Organic Films Deposited onto Novel Metallic Surfaces", **October 2008**.
13. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report, Project SC #0226 "Development of SEIRA Substrates Fabricated by Glancing Angle Vaport Deposition (GLAD) for Uranyl Ion Detection and Differentiation", **October 2008**.
12. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report, Project SC #0226 "Development of SEIRA Substrates Fabricated by Glancing Angle Vaport Deposition (GLAD) for Uranyl Ion Detection and Differentiation", **September 2008**.
11. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report, Project SC #0226 "Development of SEIRA Substrates Fabricated by Glancing Angle Vaport Deposition (GLAD) for Uranyl Ion Detection and Differentiation", **August 2008**.
10. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report, Project SC #0226 "Development of SEIRA Substrates Fabricated by Glancing Angle Vaport Deposition (GLAD) for Uranyl Ion Detection and Differentiation", **July 2008**.
9. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report, Project SC #0226 "Development of SEIRA Substrates Fabricated by Glancing Angle Vaport Deposition (GLAD) for Uranyl Ion Detection and Differentiation", **June 2008**.
8. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Final Project Report, Project SC #0207 "Surface-Enhanced Infrared Absorption Spectroscopy Feasibility Study for the Detection and Differentiation of Uranyl Ion Cast Films", **October 2007**.
7. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Final Project Report, Project SC #0191 "Trace Analysis of Uranyl Compounds Utilizing Aligned Nanorod SERS Substrates", **September 2006**.
6. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report, Project SC #0191 "Trace Analysis of Uranyl Compounds Utilizing Aligned Nanorod SERS Substrates", **September 2006**.

5. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report, Project SC #0191 "Trace Analysis of Uranyl Compounds Utilizing Aligned Nanorod SERS Substrates", **August 2006**.
4. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report, Project SC #0191 "Trace Analysis of Uranyl Compounds Utilizing Aligned Nanorod SERS Substrates", **June 2006**.
3. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report, Project SC #0191 "Trace Analysis of Uranyl Compounds Utilizing Aligned Nanorod SERS Substrates", **May 2006**.
2. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report, Project SC #0191 "Trace Analysis of Uranyl Compounds Utilizing Aligned Nanorod SERS Substrates", **April 2006**.
1. **C. L. Leverette**, South Carolina Universities Research and Education Foundation Monthly Status Report, Project SC #0191 "Trace Analysis of Uranyl Compounds Utilizing Aligned Nanorod SERS Substrates", **March 2006**.

Review Panels

2. Reviewer for grant proposals for the American Chemical Society's Petroleum Research Fund, March **2008**.
1. Panel review of proposals based on spectroscopy for the Environmental Remediation Science Program, *Oak Ridge Institute of Science and Education (ORISE)*, August **2006**.

Undergraduate Research Advisees- (includes Senior Research Projects-ACHM 499)

Name	Year Supervised	Current Position
Mr. Robert Pyle	2004	Research Scientist GlaxoSmithKline Aiken, South Carolina
Mrs. Claire Wills	2004-05	Research Scientist, Proctor and Gamble Augusta, Georgia
Ms. Melissa Warren	2005-06	Ph.D. graduate student Dept. of Chemistry University of Georgia Athens, Georgia
Mrs. Stephanie Jacobs	2005-06	Ph.D. graduate student Medical College of Georgia Augusta, Georgia

Mr. Yianne Kritzas	2005-06	Water Quality Technician DHEC Columbia, South Carolina
Mr. Andrew Perkins	2006-07	Purification Chemist AmbioPharm, Inc. North Augusta, South Carolina
Ms. Michelle Williams	2006	Scientist Savannah River National Lab Hydrogen Research Center Aiken, South Carolina
Mr. Michael Drinkwater	2008	Medical Student USC Columbia School of Medicine Columbia, South Carolina
Mr. Timothy Vincent	2008	Chemist Westinghouse Savannah River Company Aiken, South Carolina
Ms. Audrey Hendley	2008	Ph.D. graduate student Johns Hopkins University Baltimore, Maryland
Mr. Brent Stephens	2008	Research Associate Dept. of Chemistry and Physics USC Aiken Aiken, South Carolina
Mrs. Michelle Killian	2009-2010	Current Student

Undergraduate Advisees- Independent Study (ACHM 399)

Name	Year Supervised
Mr. Andrew Perkins	2004
Mr. Jeremy Gleaton	2007
Mr. Charles Durham	2007
Mr. Ben Josey	2008
Ms. Jessica Moore	2009

Mr. Alex Brugh	2009
Ms. Rachel Strickhouser	2009, 2010
Ms. Michelle Killian	2010

Professional Service Activities

- USC Aiken Honors, Awards, and Scholarships Committee 2009-pres
- Chair, HAS SubCommittee for the USCA Excellence in Teaching Award 2010
- HAS representative on the Freshman Scholarship Action Team 2010-pres
- USC Aiken Dept. of Chemistry and Physics Inorganic Chemist Search Committee 2009
- Society of Applied Spectroscopy National Publicity Committee, Chair 2008-pres
- American Chemical Society Certification Committee, Chair, USCA Dept. of Chemistry and Physics 2008-pres
- USC Aiken Dept. of Chemistry and Physics Department Chair Search Committee, Chair 2008
- USC Aiken Dept. of Chemistry and Physics Instructor Search Committee 2007
- USC Aiken Dept. of Chemistry and Physics Organic Chemist Search Committee 2007
- USC Aiken Campus Life Committee, Chair 2007-2008
- USC Aiken Campus Life Committee 2005-2008
- USC Aiken General Education Review Committee 2006-2009
- USC Aiken Commencement Committee 2006
- Vice-Chair of Analytical/Physical Chemistry Programming, Southeast Regional Meeting of the American Chemical Society (SERMACS) 2006
- Session Organizer for SERMACS 2006
- USC Aiken Dept. of Chemistry and Physics Research Professor Search Committee 2006

- USC Aiken HAS Subcommittee Member

2005, 2006